



Atty. Dkt. No. 023829-0220

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Arudi et al.  
Title: DISPERSIBLE PROTEIN  
COMPOSITION  
Appl. No.: 10/814,434  
Filing Date: 03/31/2004  
Examiner:  
Art Unit:

**CERTIFICATE OF EXPRESS MAILING**  
I hereby certify that this correspondence is being deposited with the United States Postal Service's "Express Mail Post Office To Addressee" service under 37 C.F.R. § 1.10 on the date indicated below and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

EV 459166964 US 3/3/05  
(Express Mail Label Number) (Date of Deposit)

Carolyn Simpson

(Printed Name)

*Carolyn Simpson*  
(Signature)

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

**TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

**RELEVANCE OF EACH DOCUMENT**

An English abstract for DE 39 01 056 states: “The present invention relates to a process for the preparation of a chocolate powder having improved properties with regard to flavour and solubility, this process comprising - preparation of a lecithin-enriched cocoa powder; - addition to the lecithin-enriched cocoa powder of ingredients such as sucrose, dextrose, lactose and common salt, to give a powder mixture; and - processing to give particles of a size greater than 5 mm.”

An English abstract for DE 1 934 649 states: “Instant coca drink with lecithin mix to give homogenous blend. 70-90% of the capacity of the mixer is filled with cocoa powder and a metered amount of lecithin, these are then mixed and stirred without access of air. The mixer is a stationary container with peg mills inside together with stirrers and circulators. Circulators rotate more slowly than the mill, and an airtight lid is fitted.”

An English abstract for EP 0 379 023 states: “The present invention relates to a process for the preparation of a chocolate powder having improved properties with regard to flavour and solubility, this process comprising - preparation of a lecithin-enriched cocoa powder; - addition to the lecithin-enriched cocoa powder of ingredients such as sucrose, dextrose, lactose and common salt, to give a powder mixture; and - processing to give particles of a size greater than 5 mm.”

An English abstract for JP 2000-342183 states: “PROBLEM TO BE SOLVED: To obtain a solid instant cocoa with excellent meltability, flavor and palate feeling, takable even directly by adding an emulsifier to a stock such as cocoa powder to make an oil-in-water type emulsified product which is then dried under specific conditions and cut to pieces. SOLUTION: This solid instant cocoa is obtained by the following steps: an emulsifier spiked with pref. 0.1-0.7 wt.% of lecithin is added to a stock comprising cocoa powder, carbohydrates and pref. 0.5-3 wt.% of gelatin with an oil fraction of the total solid content

being 2-40 wt.%, water is then added to the resultant mixture to effect dissolution so as to be 15-25 wt.% in water content to make an oil-in-water type emulsified product which, in turn, vacuum- dried at  $\leq 90$  deg.C without freezing to afford a block-shaped dried product which is then coarsely crushed or cut to pieces to obtain the objective solid instant cocoa with a bulk density of 0.05-0.12 g/mL and a size of 550 mm $\times$  50 mm.”

An English abstract for JP 2000-125767 states: “PROBLEM TO BE SOLVED: To obtain a cocoa powder having an emulsifier uniformly attached to the cocoa powder and excellent in properties to be dispersed and dissolved, and further to provide a method for producing the conditioned cocoa. SOLUTION: This easily soluble cocoa is obtained by adding an emulsifier to kibble obtained by cracking a cocoa cake, mixing the kibble with the added emulsifier to disperse the emulsifier, and milling the resultant mixture. The easily soluble conditioned cocoa is obtained by adding at least one kind selected from saccharides, milk products and other edible materials to the obtained cocoa powder.”

An English abstract for JP 9-275905 states: “PROBLEM TO BE SOLVED: To obtain the subject composition, comprising a diglycerol monoester of a fatty acid as an active ingredient, capable of improving the water wettability of cocoa powder, facilitating the dispersion in hot water and making undissolved lumps thereof hardly form when added and mixed therewith. SOLUTION: This water wettability improver composition for cocoa comprises a diglycerol monoester of a fatty acid (the number of carbon atoms in constituent fatty acids is 8-22, preferably 16-22) as an active ingredient. An oil and fat such as soybean oil, rapeseed oil, cotton seed oil or corn oil (preferably a liquid oil and fat at normal temperatures) may be mixed therein.”

An English abstract for JP 7-87893 states: “PURPOSE: To obtain a granular cocoa easily soluble and dispersible in cold water and keeping the solubility and dispersibility even after long-term storage by mixing a hydrophilic polyglycerol fatty acid ester with a lipophilic polyglycerol fatty acid ester and spraying the mixture on cocoa powder. CONSTITUTION: A hydrophilic polyglycerol fatty acid ester is mixed with a lipophilic polyglycerol fatty acid ester and the mixture is sprayed on cocoa powder. The lipophilic polyglycerol fatty acid ester

acts as a binder and the hydrophilic polyglycerol fatty acid ester improves the solubility and dispersibility of cocoa.”

An English abstract for JP 7-87892 states: “PURPOSE:To improve the solubility and dispersibility of cocoa in cold water and the durability of the dissolved or dispersed state after a long-term storage by dissolving and dispersing a lipophilic polyglycerol fatty acid ester and a hydrophilic polyglycerol fatty acid ester in an oil and fat and spraying the dispersion to granulated cocoa powder. CONSTITUTION:A solution produced by dissolving a lipophilic polyglycerol fatty acid ester and a hydrophilic polyglycerol fatty acid ester in an oil and fat is sprayed on coca granules produced by granulating cocoa powder. The surface and the inner surface of pores of the granule are covered with the lipophilic polyglycerol fatty acid ester and the hydrophilic polyglycerol fatty acid ester by this process. The solubility and dispersibility attained by the hydrophilic polyglycerol fatty acid ester can be maintained even after a long-term storage by the lipophilic polyglycerol fatty acid ester.”

An English abstract for JP 5-15349 states: “PURPOSE:To prepare the subject drink resistant to the degradation with heat- resistant flat sour bacteria and stably preservable over a long period by using a sucrose fatty acid ester and citric acid monoglyceride as an emulsifier. CONSTITUTION:The objective fat-containing drink packed in a sealed vessel (preferably milk coffee, cocoa, milk tea or soup) contains an emulsifier consisting of a sucrose fatty acid ester (preferably having an HLB of  $\geq 13$ ) and citric acid monoglyceride.”

An English abstract for JP 3-155748 states: “PURPOSE:To obtain cocoa, readily wettable even with cold water, dispersible and soluble therein by converting lecithin into an O/W type emulsified composition, adding the resultant composition to a molten cacao mass, stirring the mixture and pressing an oil therefrom. CONSTITUTION:The objective cocoa obtained by converting lecithin into an O/W type emulsified composition, adding the resultant composition preferably together with cocoa butter and/or polyglycerol ester of condensed ricinoleic acid to a molten cacao mass, stirring the mixture and then pressing an oil therefrom.”

An English abstract for JP 62-272941 states: “PURPOSE:To obtain cocoa powder soluble in water, especially cold water, by keeping cocoa powder under heating at  $\geq$ melting point of fats contained in the cocoa powder and spraying low-viscosity lecithin upon the cocoa powder. CONSTITUTION:Cocoa powder (about 10-24% fat content) is heated to  $\geq$ melting point of fats contained in the cocoa powder, namely  $\geq 36$  deg.C (preferably about 50 deg.C). The cocoa powder is made in a fluidized state while keeping at the temperature and low-viscosity lecithin in a sprayed state is added to the cocoa powder. Consequently, the lecithin is stuck to the surface of cocoa particles and the surface is coated with the lecithin to give the aimed cocoa. Lecithin having  $\leq 3,000$ cps viscosity measured at 20 deg.C is designated as the low-viscosity lecithin. The effects are not shown when the amount of the low-viscosity lecithin is small, based on the cocoa powder and the cocoa powder becomes granules or has an offensive smell when the amount of the lecithin is large, so the amount is preferably 1-10%.”

An English abstract for JP 62-126966 states: “PURPOSE:To improve the dispersibility, solubility, etc. in cold water without deteriorating flavor, safety, etc., by blending sterol (derivative) with an instant powder composition containing lecithin used as an emulsifying agent. CONSTITUTION:An instant powder, e.g. coffee, cocoa, soup, etc., is produced. In the process, lecithin and sterol or a derivative thereof are used together as an emulsifying agent and contained to give the titled instant powder composition. Cholesterol, sitosterol, ergosterol, etc., may be used as the sterol and vegetable sterol, e.g. soybean sterol, is preferably used from the viewpoint of safety, price, quality, etc. Since too much sterol added inhibits the function of the lecithin and sufficient effect is not obtained, the amount thereof is preferably  $\leq 5\%$  based on the lecithin.”

An English abstract for JP 62-104554 states: “PURPOSE:The titled composition having improved dispersibility and solubility in cold water and improved flavor, obtained by blending instant powder with both lecithin and a small amount of a hydroxy acid or hydroxy acid-alcohol ester. CONSTITUTION:(A) Instant powder such as soup, cocoa, coffee, protein powder, milk powder, etc. is blended with (B) 1-0.1wt% powdery or pasty lecithin and (C) 0.02-1wt% (based on the component B) of a hydroxy acid (lactic acid) or mono or diester of

the hydroxy acid and an alcohol (e.g., glycerin). The amount of the component C added is tens - several ppm based on the instant powder.”

An English abstract for JP 59-91845 states: “PURPOSE:To improve the taste and flavor of a coffee or cocoa drink, by converting a coffee extract or a cocoa drink containing proteins, oils or fats, emulsifiers, polysaccharides, and edible acidic substances, to an acidic O/W-type emulsion. CONSTITUTION:A coffee extract or a cocoa (or chocolate) drink is added with proteins, oils or fats, emulsifiers, polysaccharides and edible acidic substances, and converted to an acidic O/W-type emulsion. When an additive containing protein is to be dissolved in a coffee drink, etc. having an acidic nature of  $\leq 4.5$  pH with an acidic substance, it is necessary to add oils or fats to the drink, etc. to prevent the coagulation and separation of the components. Since the addition of oils or fats to the acidic coffee drink, etc. causes separation, it is necessary to add emulsifiers and polysaccharides to prevent the separation.”

An English abstract for JP 58-146238 states: “PURPOSE:To prepare cocoa which can be dispersed and dissolved even in cold water or milk, by granulating cocoa powder, fluidizing the granules, spraying a surface active agent dissolved in liquid oil or fat, and contacting and mixing the solution with the granules. CONSTITUTION:Cocoa powder or a mixture of cocoa powder with sugar, powdered milk, etc. is granulated e.g. by mixing cocoa powder with an aqueous solution of a binder, and drying the obtained wet granules. The granules are fluidized, and sprayed with a surface active agent such as glycerine fatty acid ester dissolved or dispersed in liquid oil or fat. The granules are contacted and mixed with the surface active agent by this procedure, and coated with the surface active agent at the surface of the granule and the inner surface of the voids of the granule. The amount of the liquid oil or fat containing the dispersed or dissolved surface active agent is 1-10pts. per 100pts. of the granule, and that of the surface active agent is 1.5-60pts. per 100pts. of the liquid oil or fat.”

An English translation of the foreign-language documents is not readily available. However, the absence of such translation does not relieve the PTO from its duty to consider the submitted foreign language documents (37 CFR §1.98 and MPEP §609).

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1447.

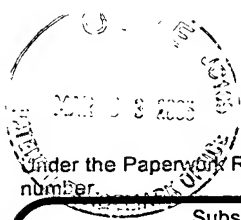
Respectfully submitted,

Date March 3, 2005

By Scott C. Nielson

FOLEY & LARDNER LLP  
777 East Wisconsin Avenue  
Milwaukee, Wisconsin 53202-5306  
Telephone: (414) 297-5718  
Facsimile: (414) 297-4900

Scott C. Nielson  
Attorney for Applicant  
Registration No. 50,755



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO  
**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

Date Submitted: March 3, 2005

(use as many sheets as necessary)

Sheet 1 of 2

**Complete if Known**

Application Number	10/814,434
Filing Date	03/31/2004
First Named Inventor	Ravindra L. Arudi
Group Art Unit	To Be Determined
Examiner Name	To Be Determined
Attorney Docket Number	CGL03/0182US1

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	2004/0219281	A1	Porter et al.	11-04-2004	
	A2	2004/0131747	A1	Porter et al.	07-08-2004	
	A3	2004/0071858	A1	Nijhuis et al.	04-15-2004	
	A4	2004/0043127	A1	Monagle et al.	03-04-2004	
	A5	2004/0016288	A1	Nikolskaya	01-29-2004	
	A6	2003/0232121	A1	Monagle et al.	12-18-2003	
	A7	2003/0211225	A1	Singh	11-13-2003	
	A8	2003/0190401	A1	Singh	10-09-2003	
	A9	2003/0059514	A1	Villagran et al.	03-27-2003	
	A10	2003/0054087	A1	Monagle et al.	03-20-2003	
	A11	2003/0045689	A1	Monagle et al.	03-06-2003	
	A12	2003/0031768	A1	Dalziel et al.	02-13-2003	
	A13	2002/0197384	A1	Singh	12-26-2002	
	A14	2002/0114877	A1	Stark et al.	08-22-2002	
	A15	2002/0098276	A1	Porter et al.	07-25-2002	
	A16	2002/0039619	A1	Monagle	04-04-2002	
	A17	6,841,184	B2	Porter et al.	01-11-2005	
	A18	6,830,773	B2	Porter et al.	12-14-2004	
	A19	6,777,017	B2	Porter et al.	08-17-2004	
	A20	6,720,020	B2	Karleskind et al.	04-13-2004	
	A21	6,716,469	B2	Stark et al.	04-06-2004	
	A22	6,610,343	B2	Purtle et al.	08-26-2003	
	A23	6,471,981	B2	Hahn	10-29-2002	
	A24	6,361,814	B2	Purtle et al.	03-26-2002	
	A25	6,313,273	B1	Thomas et al.	11-06-2001	
	A26	6,261,565	B1	Empie et al.	07-17-2001	
	A27	6,241,996	B1	Hahn	06-05-2001	
	A28	6,066,350		Purtle et al.	05-23-2000	
	A29	6,015,785		Shen et al.	01-18-2000	
	A30	5,858,449		Crank et al.	01-12-1999	
	A31	5,763,389		Shen et al.	06-09-1998	
	A32	5,753,296		Girsh	05-19-1998	
	A33	5,676,987		Lai	10-14-1997	
	A34	5,362,425		Schrier	11-08-1994	
	A35	5,338,554		Vogt et al.	08-16-1994	
	A36	5,114,730		Ellis	05-19-1992	
	A37	4,164,594		Jackson et al.	08-14-1979	
	A38	3,987,138		Hege	10-19-1976	
	A39	3,560,218		Whelan	02-02-1971	
	A40	3,053,663		Donahue	09-11-1962	

001.1782001.1

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: March 3, 2005 <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/814,434
				Filing Date	03/31/2004
				First Named Inventor	Ravindra L. Arudi
				Group Art Unit	To Be Determined
				Examiner Name	To Be Determined
				Attorney Docket Number	CGL03/0182US1
Sheet	2	of	2		

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	A41	BE	BE 775206		Schapiro	05-10-1972		
	A42	CA	CA 1,219,764		Ho et al.	03-31-1987		
	A43	DE	DE 39 01 056	A1	Vogt et al.	07-19-1990		
	A44	DE	DE 1 934 649	A	Draiswerke GmbH	01-14-1971		
	A45	EP	EP 0 379 023	A1	Vogt et al.	07-25-1990		
	A46	EP	EP 0 252 760	B1	Mitsubishi et al.	01-13-1988		
	A47	FR	FR 1 274 872		Corn Products Company	10-27-1961		
	A48	GB	GB 1,177,860		Whelan	01-14-1970		
	A49	JP	JP 2000-342183		Kimura et al.	12-12-2000		
	A50	JP	JP 2000-125767		Inoue et al.	05-09-2000		
	A51	JP	JP 9-275905		Ito et al.	10-28-1997		
	A52	JP	JP 7-87893		Aizawa et al.	04-04-1995		
	A53	JP	JP 7-87892		Aizawa et al.	04-04-1995		
	A54	JP	JP 5-15349		Hayasaka et al.	01-26-1993		
	A55	JP	JP 3-155748		Inoue	07-03-1991		
	A56	JP	JP 62-272941		Morishima	11-27-1987		
	A57	JP	JP 62-126966		Saito et al.	06-09-1987		
	A58	JP	JP 62-104554		Nakazato et al.	05-15-1987		
	A59	JP	JP 59-91845		Nakayama et al.	05-26-1984		
	A60	JP	JP 58-146238		Morishima	08-31-1983		
	A61	JP	JP 54-157880		Okumura	12-13-1979		
	A62	JP	JP 53-066473		Hara et al.	06-13-1978		
	A63	SU	210300		Gekker et al.	04-03-1968		X
	A64	WO	WO 2004/16288	A1	Dalziel et al.	02-26-2004		
	A65	WO	WO 96/34535	A1	Dolan et al.	11-07-1996		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>

001.1782001.1

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.